AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for separating and purifying a nucleic acid having a predetermined length from a nucleic acid ~~mixture~~ sample solution, comprising ~~a step of~~:

selecting a rate of surface saponification and pore size of a solid phase, said solid phase being a porous film of a surface-saponified acetylcellulose;

adsorbing ~~and desorbing~~ a nucleic acid of a predetermined length from a ~~in the~~ nucleic acid ~~mixture~~ sample solution ~~containing nucleic acids having different lengths to and from a~~ said solid phase ~~of an organic macromolecule having a hydroxyl group on surface thereof~~, wherein the solution contains nucleic acids of different lengths;

washing the solid phase using a nucleic acid-washing buffer;

desorbing the nucleic acid adsorbed to the solid phase by using a liquid capable of desorbing the nucleic acid adsorbed to the solid phase, thereby separating and purifying said nucleic acid of a predetermined length from said nucleic acid sample solution.

2. (Canceled).

3. (Currently Amendedl) The method according to claim 1, wherein the ~~organic macromolecule having a hydroxyl groups on surface thereof is~~ surface-saponified acetylcellulose is triacetylcellulose.

4. (Currently Amended) The method according to claim ~~2~~ 1, wherein the surface-saponification rate of said acetylcellulose is 5% or higher.

5. (Currently Amended) The method according to claim ~~2~~ 1, wherein the surface-saponification rate of said acetylcellulose is 10% or higher.

6. – 8. (Canceled).

9. (Currently Amended) The method according to claim ~~8~~ 1, wherein the surface-saponification rate of acetylcellulose is 10 to 100% and the pore size of the porous film is 0.1 μm to 10 μm.

10. (Currently Amended) The method according to claim ~~2~~ 1, wherein said acetylcellulose is coated on beads.

11. (Canceled)

12. (Currently Amended) The method according to claim ~~11~~ 1, wherein the sample solution is a solution prepared by adding a water-soluble organic solvent to a solution obtained by treating a cell- or virus-containing test sample with a nucleic acid-solubilizing reagent.

13. (Currently Amended) The method according to claim 12, wherein the nucleic acid-solubilizing reagent ~~is~~ comprises a guanidine salt, a surfactant and a proteolytic enzyme.

14. (Canceled)

15. (Currently Amended) The method according to claim ~~14~~ 1, wherein the nucleic acid-washing buffer is a solution containing 20 to 100 % by weight of methanol, ethanol, isopropanol or n-propanol.

16. (Currently Amended) The method according to claim ~~14~~ 1, wherein the liquid capable of desorbing the nucleic acid adsorbed to the solid phase is a solution having a salt concentration of 0.5 M or lower.

17. (Currently Amended) The method according to claim 1, wherein ~~adsorbtion~~ said adsorbing and ~~desorbtion~~ desorbing of the nucleic acid is carried out by using ~~an~~ a unit for separation and purification of said nucleic acid in which a container having at least two openings contains the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~.

18. (Currently Amended) The method according to claim 1, wherein ~~adsorbtion~~ said adsorbing and ~~desorbtion~~ desorbing of the nucleic acid is carried out by using ~~an~~ a unit for separation and purification of the nucleic acid which comprises (a) a solid phase of a porous film of a surface-saponified acetylcellulose ~~the organic macromolecule having a hydroxyl group on a surface thereof~~, (b) a container having at least two openings and containing the solid phase, and (c) a pressure difference-generating apparatus connected to one opening of the container.

19. (Currently Amended) The method according to claim 18, further comprising ~~steps of~~:

(a) preparing said ~~a~~ sample solution containing said ~~a~~ nucleic acid by using a test sample and inserting one opening of the ~~an~~ unit for separation and purification of said nucleic acid into said sample solution containing the nucleic acid;

(b) sucking the sample solution containing the nucleic acid by making an inside of the container in a reduced pressure condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and contacting the sample solution to the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~;

(c) making the inside of the container in a pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the sample solution containing the sucked nucleic acid to an outside of the container;

(d) inserting one opening of the unit for separation and purification of the nucleic acid into the nucleic acid-washing buffer;

(e) sucking the nucleic acid-washing buffer by making the inside of the container in the reduced pressure condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of nucleic acid, and contacting the nucleic acid-washing buffer to the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~;

(f) making the inside of the container in a pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the sucked nucleic acid-washing buffer to the outside of the container;

(g) inserting one opening of the unit for separation and purification of the nucleic acid into the liquid capable of desorbing the nucleic acid adsorbed to the solid phase ~~of the organic macromolecule having a hydroxyl group on the surface thereof~~;

(h) making the inside of the container in the reduced pressure condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and sucking the liquid capable of desorbing the nucleic acid adsorbed to the solid phase ~~of the organic macromolecule having a hydroxyl group~~ on the surface thereof to contact the liquid to the solid phase; and

(i) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the liquid capable of desorbing the nucleic acid adsorbed to the solid phase ~~of the organic macromolecule having the hydroxyl group on the surface thereof~~ to the outside of the container.

20.(Currently Amended) The method according to claim 18, further comprising ~~the steps of~~:

(a) preparing the ~~a~~ sample solution containing the nucleic acid using a test sample and injecting said sample solution containing the nucleic acid into one opening of the unit for separation and purification of the nucleic acid;

(b) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the injected sample solution containing the nucleic acid from the other opening to contact the sample solution to the solid phase ~~of the organic macromolecule having a hydroxyl group on a surface thereof~~;

(c) injecting the nucleic acid-washing buffer into said one opening of the unit for separation and purification of the nucleic acid;

(d) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the injected nucleic acid-washing buffer from said other opening to contact the nucleic acid-washing buffer to the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~;

(e) injecting the liquid capable of desorbing the nucleic acid adsorbed to the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~ into said one opening of the unit for separation and purification of nucleic acid; and

(f) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the liquid capable of desorbing the injected nucleic acid from said other opening, so as to desorb the nucleic acid adsorbed to the solid phase ~~of the organic macromolecule having a hydroxyl group on surface thereof~~ and discharge the nucleic acid to the outside of the container.

21. (New) The method according to claim 1, in which the length of the nucleic acid of predetermined length is 10 kb or less.

22. (New) The method of claim 1, in which the length of the nucleic acid of predetermined length is 30 kb or more.